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Claims

1. An offshore structure comprising a base, a deck, and a plurality of lattice legs extending between the base and the deck, wherein the legs are arranged outboard of the deck and a connection is provided between an inwardly facing face of each said leg and the deck.

2. An offshore structure as claimed in claim 1, wherein each said lattice leg comprises a vertically extending chord at each corner thereof.

3. An offshore structure as claimed in claim 2, wherein each said leg chord is circular in cross section.

4. (Amended) An offshore structure as claimed in claim 1, wherein each said lattice leg is triangular.

5. (Amended) An offshore structure as claimed in claim 2, wherein the connection between each said leg and the deck comprises a shear plate attached substantially vertically between the deck and a said leg chord.

6. An offshore structure as claimed in claim 5, wherein the connection further comprises a stiffening plate extending through a diameter of the leg chord, wherein a first side edge of said shear plate is welded to said stiffening plate and said shear plate and said stiffening plate are substantially aligned.

7. An offshore structure as claimed in claim 6, wherein the stiffening plate extends over a greater length of the leg chord than the shear plate.

A<sup>2</sup>  
8. (Amended) An offshore structure as claimed in claim 6, wherein the inboard end of said shear plate is welded between two plates extending outwardly from the deck edge.

Sub B5  
9. (Amended) An offshore structure as claimed in claim 5, wherein the connection further comprises a further metal coupling plate attached horizontally between the deck and the leg chord.

10. An offshore structure as claimed in claim 9, wherein the coupling plate has a cut-out in an edge facing the leg chord, such that a part of the periphery of the leg chord is held within the cut-out.

11. An offshore structure as claimed in claim 10, wherein the cut-out is elliptical in shape.

12. (Amended) An offshore structure as claimed in claim 9, wherein a horizontal web is attached to the deck and the coupling plate is butt welded thereto.

A<sup>3</sup>  
13. (Amended) An offshore structure as claimed in claim 9, wherein plate stiffeners extending from the inboard end to the outboard end are provided in the coupling plate.

Sub B6  
14. (Amended) An offshore structure as claimed in claim 9, wherein a coupling plate is provided at the top and the bottom of the shear plate.

15. An offshore structure as claimed in claim 14, wherein each coupling plate is welded to the shear plate at the join between the plates.

A<sup>4</sup>  
16. (Amended) An offshore structure as claimed in claim 2, wherein the connection is formed between the deck

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and two said leg chords located at either end of the inwardly facing face of the lattice leg.

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17. A method of installing an offshore structure comprising a base, a deck and a plurality of lattice legs located outboard of the deck, the method comprising the steps of: jacking the deck to the required height; forming a permanent connection between the deck and the legs; and removing the jacking system from the structure.

18. A method of installing an offshore structure as claimed in claim 17, wherein guides are provided on the deck so as to guide the deck as it is jacked up the legs.

19. A method of installing an offshore structure as claimed in claim 18, further comprising the steps of: attaching four legs to the base; attaching two guides to the deck; floating the deck over the base so that it passes between the legs until the guides abut against two said legs; and attaching another two guides to the deck.

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20. (Amended) A method of installing an offshore structure as claimed in claim 18, wherein the guides comprise beams attached to and projecting from the upper surface of the deck and being shaped for engaging a chord of a said leg.

21. (Amended) A method of installing an offshore structure as claimed in claim 17, wherein the deck is located relative to the legs prior to formation of the permanent connection.

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22. A method of installing an offshore structure as claimed in claim 21, wherein the deck is located by

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pulling the leg towards the deck so as to hold the leg chord against the guide.

23. A method of installing an offshore structure as claimed in claim 22, wherein a hydraulic tugger is provided between an outer edge of the leg and the deck so as to pull the leg towards the deck.

24. (Amended) A method of installing an offshore structure as claimed in claim 21, wherein hydraulic screw jacks are provided at the base of the deck so as to push the inboard leg chords away from the lower deck edge.

25. (Amended) A method of installing an offshore structure as claimed in claim 22, wherein the deck is pulled towards each of the legs.

26. A method of locating a deck of an offshore structure relative to a plurality of outboard lattice legs, said legs comprising a plurality of chords arranged at respective corners thereof, said method comprising the steps of pulling an outer leg chord towards said deck and pushing the leg chords located adjacent the deck away therefrom.

27. A method of locating a deck of an offshore structure relative to a plurality of outboard lattice legs as claimed in claim 26, wherein the outer leg chord is pulled towards the deck by means of a hydraulic tugger.

28. (Amended) A method of locating a deck of an offshore structure relative to a plurality of outboard lattice legs as claimed in claim 26, wherein the leg chords located adjacent the deck are pushed away therefrom by means of hydraulic screw jacks extending



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from the deck edge.

A7  
29. (Amended) A method of installing an offshore structure as claimed in claim 17, wherein the permanent connection is formed by welding a substantially vertically extending shear plate between a chord of the lattice leg and the deck edge.

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30. A method of installing an offshore structure as claimed in claim 29, wherein a stiffening plate is provided through a diameter of the leg, and a first side edge of said shear plate is welded to said stiffening plate, and said shear plate and said stiffening plate are substantially aligned.

31. A method of installing an offshore structure as claimed in claim 30, wherein the stiffening plate extends over a greater length of the leg chord than the shear plate.

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32. (Amended) A method of installing an offshore structure as claimed in claim 30, wherein two plates are welded to the deck edge on respective sides of the shear plate and extending outwardly from the deck edge, and the inboard end of said shear plate is welded between the two plates.

A8  
33. (Amended) A method of installing an offshore structure as claimed in claim 29, wherein the connection further comprises a further metal coupling plate attached horizontally between the deck and the leg chord, the second metal plate having a cut-out in an edge facing the leg chord, such that a part of the periphery of the leg chord is held within the cut-out.

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34. A method of installing an offshore structure as claimed in claim 33, wherein the cut-out is elliptical

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in shape.

35. (Amended) A method of installing an offshore structure as claimed in claim 33, wherein a coupling plate is provided at the top and the bottom of the shear plate.

36. (Amended) A method of installing an offshore structure as claimed in claim 33, wherein the shear plate and the coupling plate are welded together.

37. An offshore structure comprising a base, a deck, and a plurality of legs extending between the base and the deck, wherein the legs are arranged outboard of the deck and a connection is provided between an inwardly facing face of each said leg and the deck.

38. A method of installing an offshore structure comprising a base, a deck and a plurality of legs located outboard of the deck, the method comprising the steps of jacking the deck to the required height; forming a permanent connection between the deck and the legs; and removing the jacking system from the structure.

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